UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS

SUPPORTING AMENDMENT NO. 145 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 141 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 116 TO FACILITY OPERATING LICENSE NO. DPR-68

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2 AND 3

DOCKETS NOS. 50-259, 50-260 AND 50-296

1.0 INTRODUCTION

By letter dated October 16, 1987, Tennessee Valley Authority (The licensee) requested a change to the Browns Ferry Nuclear Plant, Units 1, 2 and 3 Technical Specifications. The proposed changes to the Technical Specifications are as follows:

A. Limiting Condition for Operation (LCO) 3.7.D.1, to require primary containment isolation valves be operable when primary containment integrity is required. Primary containment integrity is required by LCO 3.7.A.2.a when the reactor is critical or when the reactor water temperature is above 212°F. Currently, LCO 3.7.D.1 required primary containment isolation valves be operable only during reactor power operations.

B. LCO 3.7.D.2, to permit reactor operation to continue for up to 4 hours with an inoperable primary containment isolation valve, without requiring a redundant valve be placed in the isolated position, provided that at least one isolation valve in the line having an inoperable isolation valve is operable, and

C. Definition 1.0.0.3, Primary Containment Integrity, to reference specification 3.7.D.2 which defines under what conditions reactor operation is acceptable with an inoperable primary containment isolation valve.

2.0 EVALUATION

LCO 3.7.D.1 requires primary containment isolation valves to be operable only during reactor power operation. This is inconsistent with LCO 3.7.A.2.a which requires primary containment integrity be maintained when the reactor is critical or when the reactor water temperature is above 212°F. Therefore, LCO 3.7.D.1 is being revised to be consistent with LCO 3.7.A.2 by requiring the primary containment isolation valves be operable when primary containment integrity is required.

LCO 3.7.D.1 requires primary containment isolation valves be operable only during reactor power operations. Reactor power operation is defined as any operation with the mode switch in the "Startup" or "Run" position with the reactor critical and above 1 percent rated power. This revision will require primary containment isolation valves be operable whenever primary containment integrity is required. LCO 3.7.A.2.a requires primary containment integrity when the reactor is critical or when the reactor water temperature is above 212°F. Therefore, this change will additionally require the primary containment isolation valves be operable when the reactor is in hot shutdown or a hot standby condition. Hot shutdown is when the reactor is in the shutdown mode with control rods fully inserted and the reactor coolant temperature greater than 212°F. Hot Standby condition means operation with coolant temperature greater than 212°F, system pressure less than 1055 psig, the main steam isolation valves closed and the mode switch in the Startup/Hot Standby position. Since this change will require the primary containment isolation valves be operable over a broader range of operating conditions, it constitutes additional operating restrictions and is therefore conservative.

LCO 3.7.D.2 action does not specify a time period for isolating the line which contains an inoperable primary containment isolation valve. The revised LCO 3.7.D.2 specifies a time period for completing this action and provides increased operational flexibility by allowing the repair of an inoperable valve as an alternative to isolating the affected line. The change to LCO 3.7.D.2 action permits reactor operation to continue for a short period of time (4 hours) when a primary containment isolation valve is inoperable, without requiring a redundant valve be placed in the isolated position, provided that at least one isolation valve in the same line is operable. The BFN primary containment isolation valve system is designed to provide the capability for rapid isolation of lines which penetrate the primary containment. The primary containment isolation valves are designed to limit leakage of primary containment atmosphere to the environment after an accident and, in the case of lines connected to the reactor coolant system, to limit loss of reactor coolant due to a line break outside containment. This change is consistent with other Browns Ferry Technical Specification requirements as demonstrated by Table 3.2.A, Note 11, which allows a channel of the primary containment isolation instrumentation to be placed in an inoperable status for up to four hours for surveillance without placing the channel in the tripped condition. This change is also consistent with recently approved Technical Specifications for other facilities as demonstrated by Section 3.6.3.a of the Hope Creek Generating Station Technical Specifications (NUREG-1202, July 1986) which allows four hours to restore the inoperable primary containment isolation valve or isolate the affected penetration.

Definition 1.0.0.3 must be consistent with revised LCO 3.7.D.2 action so as to satisfy the definition of primary containment integrity during the four hours that a line penetrating the primary containment is permitted to remain open when an isolation valve is inoperable. This change is purely administrative and does not affect nuclear safety.

Based on the above evaluation the staff finds the proposed changes to the Technical Specification are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendments involve a change to a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor: John Stang

Dated: February 29, 1988